Session 112

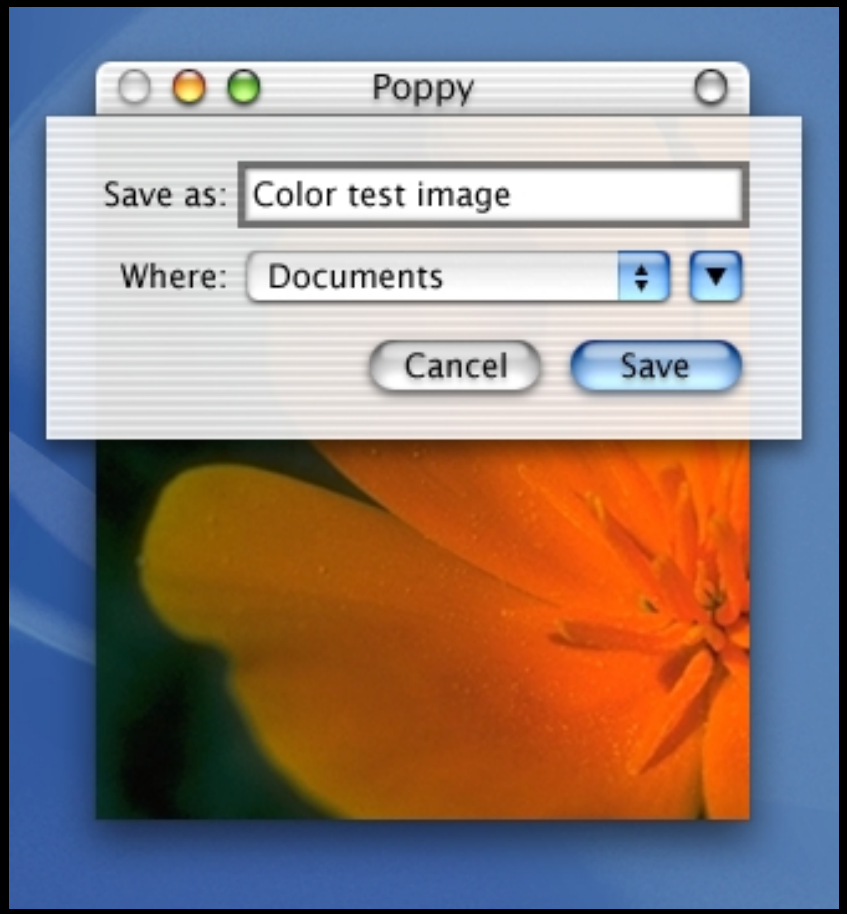
Carbon: Windows and Menus

Ed Voas
Carbon People Manager

Overview

- Sheets
- Window Groups
- Overlay Windows
- Standard Menus (Help, etc.)
- Menu item enabling
- Custom MDEF issues

Sheets



- Provide a document-model experience
- Allows user to use other part of your application

Sheets the Easy Way

- CreateStandardSheet
  - Like StandardAlert or CreateStandardAlert
- Navigation Services
- Print Panels

Build Your Own Sheets

- Must use kSheetWindowClass
- Handle kEventWindowDrawContent event
  - Allows content to be prerendered
- To display: ShowSheetWindow
  - Does animation and binds to parent window
- To remove: HideSheetWindow
  - Don’t forget to dispose it

Transparent Sheets

- Not supported in 10.0.x
  - Work is well underway
- Will require an explicit switch to enable
- CreateStandardSheet will work automatically
- Sheets using standard controls will just work
  - Custom controls may require CG

Alert Types

- Historically: Note, Caution, and Stop alerts
- Keep using the constants
  - Don’t try to replace the icon yourselves
- Toolbox will support these as appropriate in the future

Window Groups

- Customize window layering and activation
  - Toolbox is still in the loop
- ActivateWindow
- ActiveNonFloatingWindow
  - Use in place of FrontWindow, et. al.
- Create your own groups
  - Can move and Z-Order together

Overlay Windows

- Allows ‘screen scribbling’
- Transparent window at high window level
- Performance implications (memory)
- Requires CG to draw
- Affects Classic windows

Automatic Window Positioning

- We reposition on monitor/dock size changes
- GetAvailableWindowPositioningBounds
- kEventWindowConstrain Carbon Event
  - You can override default constraining
- Some APIs take Dock into consideration
  - ResizeWindow, ZoomWindowIdeal

Window Menu

- Tracks Document Class windows
- CreateStandardWindowMenu
- All menu items are handled by the toolbox
- Your application can add items as well
- Alternate Titles

Window Manager Your Way

- kEventWindowBoundsChange
  - Window gridding and snap-to
- kEventWindowGetClickActivation
  - Click-through
- kEventWindowHandleContentClick
- kEventWindowGetIdealSize
- kEventWindowGetMinimum/MaximumSize

Server-Side Window Dragging

- Not in 10.0, but fast approaching
- Eliminates cross-talk with WindowServer
- Can move windows of app that are hung
- Makes applications feel responsive
- Requires WDEF support
  - Window-relative coordinate system

Custom WDEFs

- RegisterWindowDefinition
- RegisterToolboxObject
- CreateCustomWindow

Demo

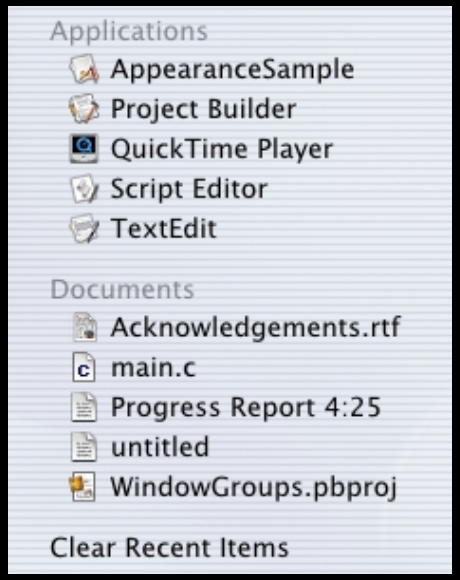
Guy Fullerton
Unreal Tournament Target

Menu Manager

- Icons for Menu Titles

Menu Manager

- Icons for Menu Titles
- Indentation and Menu Section support



Menu Manager

- Icons for Menu Titles
- Indentation and Menu Section support
- Command ID access
- Refcounting
- Dynamic Items
- Better Hierarchical Support

Carbon Events

- kEventMenuBegin/EndTracking
- kEventMenuOpening
  - For lazy construction
- kEventMenuTargetItem
  - Replacement for menu hook

Enabling Menu Items

- Carbon Events for enabling menu items
  - kEventCommandUpdateStatus
  - kEventMenuEnableItems
- WNE-based apps can (and should) use this too
- Edit menu works through these Carbon Events
  - Use standard command IDs for proper behavior
- These events can be sent out at any time

Apple/Application Menus

- Automatically provided by system
- Continue inserting “Apple” menu
  - On Mac OS X: Application Menu
  - On Mac OS 9: Apple Menu
- Most items are handled automatically
  - App should respond to Quit and Preferences commands
  - Use EnableMenuCommand for Quit and Preferences items

Help Menu

- On Mac OS X, there is no help menu
  - That is, until you call HMGetHelpMenu
  - Or you provide a Help Book in Info.plist
- App can add items
- System handles any Help Book items it added

In Summary…

- A lot of great new functionality!
- Check out CarbonEvents.h to see what kind of customization you can do
- Now go port your application!

Roadmap

119 Carbon Controls & Appearance I: Learn about adopt Aqua in your application	Hall 2 **Thurs., 9:00am**
120 Carbon Controls & Appearance II: Learn about new control types and features	Hall 2 **Thurs., 10:30am**
121 Carbon Performance Tuning: Learn how to perform well on Mac OS X	Hall 2 **Thurs., 2:00pm**
FF114 Feedback Forum: **High Level Toolbox:** Tell us how we're doing (we'll wear Kevlar)	Room C **Fri., 3:30pm**

WWDC

Worldwide Developers Conference 2001